

IN THE UNITED STATES PATENT AND
TRADEMARK OFFICE

PATENT

Applicant(s): Meichun Ruan Atty Docket No.: 12218.1100
Jun Shen
Charles Wheeler

Serial No.: TBA Client Ref: MO-065

Filed: Herewith Group Art Unit: TBA

TITLE: OPTICAL MEMS SWITCHING Examiner: TBA
ARRAY WITH EMBEDDED BEAM-
CONFINING CHANNELS AND
METHOD OF OPERATING SAME

DECLARATION FOR PATENT APPLICATION

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled OPTICAL MEMS SWITCHING ARRAY WITH EMBEDDED BEAM-CONFINING CHANNELS AND METHOD OF OPERATING SAME, the specification of which:

☒ [X] is attached hereto.
☐ [] was filed on _____ as Application Serial No. _____ was amended
on _____ (if applicable).

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 C.F.R. §1.56.

I hereby claim foreign priority benefits under 35 U.S.C. § 119(a)-(d) or § 365(b) of any foreign application(s) for patent or inventor's certificate, or § 365(a) of any PCT International application which designated at least one country other than the United States, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or PCT International application having a filing date before that of the application on which priority is claimed.

Priority Not Claimed

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| Number | Country | Filing Date |
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| Number | Country | Filing Date |
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I hereby claim the benefit under 35 U.S.C. § 119(e) of any United States provisional application(s) listed below.

| | |
|--------------------|-------------|
| 60/217,265 | 07/11/00 |
| Application Number | Filing Date |
| 60/155,757 | 09/23/99 |
| Application Number | Filing Date |

I hereby claim the benefit under 35 U.S.C. §120 of any United States application(s), or §365(c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of 35 U.S.C. §112, I acknowledge the duty to disclose information material to patentability as defined in 37 C.F.R. §1.56 which occurred between the filing date of the prior application and the national or PCT international filing date of this application.

| | | |
|------------------------|-------------|------------------------------------|
| 09/563,595 | 05/03/00 | Continuation-in-Part of 09/496,446 |
| Application Serial No. | Filing Date | Status — Patent, Pending |
| 09/496,446 | 02/02/00 | Continuation-in-Part of 60/155,757 |
| Application Serial No. | Filing date | Status — Patent, Pending |

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full name of first inventor: Meichun Ruan

Inventor's signature: _____

Date: _____

Residence: Tempe Arizona USA
City State/Country

Citizenship: _____

Post Office Address: 1050 S. Stanley Place Zip Code: 85281

Full name of second joint inventor: Jun Shen

Inventor's signature: _____

Date: _____

Residence: Phoenix Arizona USA
City State/Country

Citizenship: _____

Post Office Address: 14654 S. 25th Place Zip Code: 85048

Full name of third joint inventor: Charles Wheeler

Inventor's signature: _____

Date: _____

Residence: Paradise Valley Arizona USA
City State/Country

Citizenship: _____

Post Office Address: 6501 E. Hummingbird Lane Zip Code: 85253

**VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY
STATUS (37 CFR 1.9(f) AND 1.27 (d)) - NONPROFIT ORGANIZATION**

Docket No.
12218.1100

Serial No.
TBD

Filing Date
Herewith

Patent No.
TBD

Issue Date
TBD

Applicant/

Patentee: **Meichun Ruan et al.**
Invention: **OPTICAL MEMS SWITCHING ARRAY WITH EMBEDDED BEAM-CONFINING CHANNELS AND
METHOD OF OPERATING SAME**

I hereby declare that I am an official empowered to act on behalf of the nonprofit organization identified below:

NAME OF ORGANIZATION: Arizona State UniversityADDRESS OF ORGANIZATION: P.O. Box 873511
Tempe, Arizona 85287-3511

TYPE OF NONPROFIT ORGANIZATION:

- ☒ University or other Institute of Higher Education
- ☐ Tax Exempt under Internal Revenue Service Code (26 U.S.C. 501(a) and 501(c)(3))
- ☐ Nonprofit Scientific or Educational under Statute of State of The United States of America
Name of State: _____ Citation of Statute: _____
- ☐ Would Qualify as Tax Exempt under Internal Revenue Service Code (26 U.S.C. 501(a) and 501(c)(3)) if Located in The United States of America
- ☐ Would Qualify as Nonprofit Scientific or Educational under Statute of State of The United States of America if Located in The United States of America
Name of State: _____ Citation of Statute: _____

I hereby declare that the above-identified nonprofit organization qualifies as a nonprofit organization as defined in 37 C.F.R. 1.9(e) for purposes of paying reduced fees to the United States Patent and Trademark Office regarding the invention described in:

- ☒ the specification to be filed herewith.
- ☐ the application identified above.
- ☐ the patent identified above.

I hereby declare that rights under contract or law have been conveyed to and remain with the nonprofit organization with regard to the above identified invention.

If the rights held by the above-identified nonprofit organization are not exclusive, each individual, concern or organization having rights to the invention is listed on the next page and no rights to the invention are held by any person, other than the inventor, who could not qualify as an independent inventor under 37 CFR 1.9(c) or by any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR 1.9(e).

Each person, concern or organization to which I have assigned, granted, conveyed, or licensed or am under an obligation under contract or law to assign, grant, convey, or license any rights in the invention is listed below:

- ☒ no such person, concern or organization exists.
☐ each such person, concern or organization is listed below.

FULL NAME _____
 ADDRESS _____

☐ Individual ☐ Small Business Concern ☐ Nonprofit Organization

FULL NAME _____
 ADDRESS _____

☐ Individual ☐ Small Business Concern ☐ Nonprofit Organization

FULL NAME _____
 ADDRESS _____

☐ Individual ☐ Small Business Concern ☐ Nonprofit Organization

FULL NAME _____
 ADDRESS _____

☐ Individual ☐ Small Business Concern ☐ Nonprofit Organization

Separate verified statements are required from each named person, concern or organization having rights to the invention averring to their status as small entities. (37 CFR 1.27)

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b))

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

NAME OF PERSON SIGNING: Alan Poskanzer
 TITLE IN ORGANIZATION: Director
 ADDRESS OF PERSON SIGNING: Arizona State University
P.O. Box 873511
Tempe, Arizona 85287-3511

SIGNATURE: _____ DATE: _____

**IN THE UNITED STATES PATENT
AND TRADEMARK OFFICE**

PATENT

Applicants: Meichun Ruan
Jun Shen
Charles Wheeler

Docket No.: 12218.1100

Serial No.: To Be Assigned

Group Art Unit: NYA

Filing Date:

Examiner: NYA

Title: OPTICAL MEMS SWITCHING ARRAY
WITH EMBEDDED BEAM-CONFINING
CHANNELS AND METHOD OF
OPERATING SAME

POWER OF ATTORNEY

Arizona Board of Regents, the Assignee of the entire right, title, and interest in and to the above-captioned United States patent application and all inventions disclosed and claimed therein, hereby appoints as its attorneys to prosecute the above-captioned United States patent application and to transact all business in the United States Patent and Trademark Office connected therewith and with the resulting patent, individually and collectively:

SNELL & WILMER L.L.P.
One Arizona Center
400 East Van Buren
Phoenix, Arizona 85004-2202
Telephone: (602) 382-6000
Facsimile: (602) 382-6070

and the registered attorneys associated with Snell & Wilmer's Customer Number 020322.

Please send all further correspondence to Brett A. Carlson at the above address.

By: Dr. Alan Poskanzer

Signature: _____

Date: _____

ASSIGNMENT

WHEREAS, the undersigned inventor (hereinafter "ASSIGNOR") of the address indicated below, is the inventor of "**OPTICAL MEMS SWITCHING ARRAY WITH EMBEDDED BEAM-CONFINING CHANNELS AND METHOD OF OPERATING SAME**", for which application is a continuation-in-part of United States Patent Application Serial No. 09/563,595 filed on May 3, 2000, which is a continuation-in-part of United States Patent Application Serial No. 09/496,446 filed February 2, 2000, which claims priority of United States Provisional Application Serial No. 60/155,757, filed September 23, 1999, and also claims priority of United States Provisional Patent Application Serial No. 60/217,265 filed July 11, 2000.

AND WHEREAS, ARIZONA STATE UNIVERSITY. (hereinafter "ASSIGNEE"), with an office at P.O. Box 873511, Tempe, Arizona 85287-3511, is desirous of acquiring an interest therein;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, ASSIGNOR by these presents does sell, assign and transfer unto ASSIGNEE, its successors, assigns and legal representatives, the ASSIGNOR's full and exclusive right to the invention as described in the aforesaid application, in the United States and all foreign countries, together with the right of priority under the International Convention for the Protection of Industrial Property, Inter-American Convention Relating to Patents, Designs and Industrial Models, and any other international agreements to which the United States adheres, and hereby authorizes and requests the Commissioner of Patents to issue any Letters Patent issuing from or claiming priority to said application to ASSIGNEE, for the sole use and benefit of ASSIGNEE, its successors, assigns and legal representatives,

AND HEREBY AGREES to transfer a like interest upon request of ASSIGNEE, its successors, assigns and legal representatives, and without further remuneration, in and to any improvements and applications for patents based thereon, growing out of or relating to the invention; and to provide all reasonable assistance and execute any papers deemed essential by ASSIGNEE, its successors, assigns and legal representatives, to ASSIGNEE's full protection and title in and to the invention hereby transferred,

AGREEING, FURTHERMORE, upon request of ASSIGNEE, and without further remuneration, to execute any and all papers desired by ASSIGNEE for the filing and granting of foreign applications and the perfecting of title thereto in ASSIGNEE.

EXECUTED as of the date written below by ASSIGNOR:

Inventor: Meichun Ruan

Signature: _____ Date: _____

Residence address: 1050 S. Stanley Place P161, Tempe, Arizona 85281

STATE OF ARIZONA)
) ss.
COUNTY OF MARICOPA)

On this _____ day of _____, 2001, before me, a notary public in and for said county, appeared Meichun Ruan, who is known to me to be the same person whose name is subscribed to the foregoing instrument, and he acknowledges that he signed, sealed and delivered the said instrument as a free and voluntary act for the uses and purposes therein set forth.

(Seal)

Notary Public

My commission expires:

Inventor: Jun Shen

Signature: _____ Date: _____

Residence address: 14654 S. 25th Place, Phoenix, Arizona 85048

STATE OF ARIZONA)
) ss.
COUNTY OF MARICOPA)

On this _____ day of _____, 2001, before me, a notary public in and for said county, appeared Jun Shen, who is known to me to be the same person whose name is subscribed to the foregoing instrument, and he acknowledges that he signed, sealed and delivered the said instrument as a free and voluntary act for the uses and purposes therein set forth.

(Seal)

Notary Public

My commission expires:

Inventor: Charles Wheeler

Signature: _____ Date: _____

Residence address: 6501 E. Hummingbird Lane, Paradise Valley, Arizona 85253

STATE OF ARIZONA)
) ss.
COUNTY OF MARICOPA)

On this _____ day of _____, 2001, before me, a notary public in and for said county, appeared Charles Wheeler, who is known to me to be the same person whose name is subscribed to the foregoing instrument, and he acknowledges that he signed, sealed and delivered the said instrument as a free and voluntary act for the uses and purposes therein set forth.

(Seal)

Notary Public

My commission expires:
